

NetScaler FIPS models

Delivering scalability and performance for enterprises with the highest security requirements

NetScaler is an application security and delivery platform that helps you scale and protect your applications using data and insights to enable peak performance. Whether you're delivering applications to your customers, your workforce, or both, NetScaler helps you do it reliably and securely.

NetScaler is built on a single operating system, so no matter which ADC form factor you choose — hardware or software or a mix — you'll manage them from one place. The operational consistency and deep observability you get with NetScaler makes it easier to apply consistent security policies and to troubleshoot faster.

NetScaler offers pooled-capacity licensing, which allows you to reallocate capacity to wherever you need it, whenever you need it, no matter where you choose to deploy your ADCs — on-premises or public cloud or both — your NetScaler subscription price will remain the same.

NetScaler FIPS

What is FIPS?

The Federal Information Processing Standard Publication 140-2, or FIPS 140-2, is a US government cybersecurity standard used to evaluate and approve cryptographic modules.

NetScaler FIPS

NetScaler offers specific physical and virtual platforms with FIPS 140-2 certification and compliance to meet the strict compliance mandates of high security businesses and organizations.

Learn more about NetScaler FIPS 140-2 compliance by visiting the [NetScaler Trust Center](#).

NetScaler models	MPX 8920 FIPS	MPX 8910 FIPS	MPX 8905 FIPS
Attributes			
Memory	32 GB	32 GB	32 GB
Ethernet ports ¹		4x 10GE SFP+; 6x 10/100/1000 CU	
Transceivers support		10GE SFP+: SR, LR	
RAID support	No	No	No
Performance			
System throughput (Gbps) [L7 throughput]	20	10	5
L7 HTTP requests/sec	1,700,000	1,400,000	990,000
L4 connections/sec	1,200,00	800,000	600,000
L4 concurrent sessions	15,000,000	14,000,000	13,000,000
SSL transactions/sec (2k key certificates) ²	22,000	13,000	8,000
ECDHE transactions/sec	10,000	6,000	4,000
SSL throughput (Gbps)	20	10	5
Compression throughput (Gbps)	4	3.5	2.5
ICA Proxy/SSL VPN concurrent users	10,000	10,000	10,000
Included instances, maximum instances (on SDX models)	N/A	N/A	N/A
Mechanical, environmental, and regulatory			
Power supplies	1 (2nd optional)	1 (2nd optional)	1 (2nd optional)
Input voltage, frequency range	100-240 VAC full range, 50-60 Hz	100-240 VAC full range, 50-60 Hz	100-240 VAC full range, 50-60 Hz
Optional DC power supply	Yes	Yes	Yes
Max power supply	275W	275W	275W
Typical, max power consumption	225W	225W	225W
Weight (lbs)	25	25	25
Height	1U	1U	1U
Width	EIA 310-D for 19 inch racks		
Depth	61 cm (24 in)	61 cm (24 in)	61 cm (24 in)
Operating temperature	0-45°C (32-113°F)	0-45°C (32-113°F)	0-45°C (32-113°F)
Allowed relative humidity	5%-95%, Non-condensing	5%-95%, Non-condensing	5%-95%, Non-condensing
Safety certifications	CSA		
Electromagnetic emissions certifications & susceptibility standard	FCC, CE, VCCI, RCM, CCC, KCC, BIS, NOM, CITC, ICASA, EAC		
Regulatory compliance	RoHS, WEEE, REACH		
NetScaler compliance regulatory model	1U1P1A	1U1P1A	1U1P1A

1. Published ethernet interfaces compliant per IEEE802.3-2002/2005/2008/2012.

2. Performance varies depending on ciphers deployed. Contact your NetScaler sales representative for details.

NetScaler models	MPX 15120-50G FIPS	MPX 15100-50G FIPS	MPX 15080-50G FIPS
Attributes			
Memory	128 GB	128 GB	128 GB
Ethernet ports ¹	4x 50GE QSFP28; 8x 10GE SFP+		
Transceivers support	50GE QSFP28 Port: 50GE/100GE QSFP28: SR4; 40GE QSFP+: SR4; 25GE SFP28: SR (Adapter required); 10GE SFP+: SR, LR (Adapter required); 10GE SFP+ Port: 10GE SFP+: SR, LR		
RAID support	Yes	Yes	Yes
Performance			
System throughput (Gbps) [L7 throughput]	120	100	80
L7 HTTP requests/sec	4,000,000	4,000,000	3,900,000
L4 connections/sec	5,500,000	5,100,000	5,000,000
L4 concurrent sessions	65,000,000	65,000,000	60,000,000
SSL transactions/sec (2k key certificates) ²	160,000	140,000	127,000
ECDHE transactions/sec	65,000	58,000	53,000
SSL throughput (Gbps)	74	70	60
Compression throughput (Gbps)	10.8	10	9.3
ICA Proxy/SSL VPN concurrent users	20,000	20,000	20,000
Mechanical, environmental, and regulatory			
Power supplies	2	2	2
Input voltage, frequency range	100-240 VAC full range, 50-60 Hz	100-240 VAC full range, 50-60 Hz	100-240 VAC full range, 50-60 Hz
Optional DC power supply	Yes	Yes	Yes
Max power supply	1000W	1000W	1000W
Typical, max power consumption	364W, 487W	364W, 487W	364W, 487W
Weight (lbs)	39	39	39
Height	2U	2U	2U
Width	EIA 310-D, IEC 60297, DIN 41494 SC48D rack width with mounting brackets		
Depth	71.1 cm (28 in)	71.1 cm (28 in)	71.1 cm (28 in)
Operating temperature	0-45°C (32-113°F)	0-45°C (32-113°F)	0-45°C (32-113°F)
Allowed relative humidity	5%-95%, Non-condensing	5%-95%, Non-condensing	5%-95%, Non-condensing
Safety certifications	IEC 60950-1, 2nd Edition; CSA 60950-1, 2nd Edition; UL 60950-1, 2nd Edition; AS/NZS 60950-1		
Electromagnetic emissions certifications & susceptibility standard	US (FCC (Part 15 Class A)), Europe (CE (EN 55032/55024)), Australia (RCM), Japan (VCCI), Korea (KCC), Taiwan (BSMI), China (CCC), India (BIS), Russia (CUTR), Russia (EAC), Saudi Arabia (CITC), Brazil (Anatel), South Africa (ICASA), Mexico (NOM), Egypt (NTRA), Israel (MoC)		
Regulatory compliance	RoHS, WEEE, REACH		
NetScaler compliance regulatory model	2U1P1A	2U1P1A	2U1P1A

1. Published ethernet interfaces compliant per IEEE802.3-2002/2005/2008/2012.

2. Performance varies depending on ciphers deployed. Contact your NetScalersales representative for details.

NetScaler models	MPX 15060-50G FIPS	MPX 15040-50G FIPS
Attributes		
Memory	128 GB	128 GB
Ethernet ports ¹	4x 50GE QSFP28; 8x 10GE SFP+	
Transceivers support	50GE QSFP28 Port: 50GE/100GE QSFP28: SR4; 40GE QSFP+: SR4; 25GE SFP28: SR (Adapter required); 10GE SFP+: SR, LR (Adapter required); 10GE SFP+ Port: 10GE SFP+: SR, LR	
RAID support	Yes	Yes
Performance		
System throughput (Gbps) [L7 throughput]	60	40
L7 HTTP requests/sec	3,200,00	3,000,000
L4 connections/sec	4,600,000	4,400,000
L4 concurrent sessions	56,000,000	51,000,000
SSL transactions/sec (2k key certificates) ²	110,000	66,000
ECDHE transactions/sec	45,000	28,000
SSL throughput (Gbps)	50	40
Compression throughput (Gbps)	8.5	7.8
ICA Proxy/SSL VPN concurrent users	20,000	20,000
Mechanical, environmental, and regulatory		
Power supplies	2	2
Input voltage, frequency range	100-240 VAC full range, 50-60 Hz	100-240 VAC full range, 50-60 Hz
Optional DC power supply	Yes	Yes
Max power supply	1000W	1000W
Typical, max power consumption	364W, 487W	364W, 487W
Weight (lbs)	39	39
Height	2U	2U
Width	EIA 310-D, IEC 60297, DIN 41494 SC48D rack width with mounting brackets	
Depth	71.1 cm (28 in)	71.1 cm (28 in)
Operating temperature	0-45°C (32-113°F)	0-45°C (32-113°F)
Allowed relative humidity	5%-95%, Non-condensing	5%-95%, Non-condensing
Safety certifications	IEC 60950-1, 2nd Edition; CSA 60950-1, 2nd Edition; UL 60950-1, 2nd Edition; AS/NZS 60950-1	
Electromagnetic emissions certifications & susceptibility standard	US (FCC (Part 15 Class A)), Europe (CE (EN 55032/55024)), Australia (RCM), Japan (VCCI), Korea (KCC), Taiwan (BSMI), China (CCC), India (BIS), Russia (CUTR), Russia (EAC), Saudi Arabia (CITC), Brazil (Anatel), South Africa (ICASA), Mexico (NOM), Egypt (NTRA), Israel (MoC)	
Regulatory compliance	RoHS, WEEE, REACH	
NetScaler compliance regulatory model	2U1P1A	2U1P1A

1. Published ethernet interfaces compliant per IEEE802.3-2002/2005/2008/2012.

2. Performance varies depending on ciphers deployed. Contact your NetScaler sales representative for details.

NetScaler models

MPX 15030-50G FIPS

Attributes

Memory	128 GB
Ethernet ports ¹	
Transceivers support	50GE QSFP28 Port: 50GE/100GE QSFP28: SR4; 40GE QSFP+: SR4; 25GE SFP28: SR (Adapter required); 10GE SFP+: SR, LR (Adapter required); 10GE SFP+ Port: 10GE SFP+: SR, LR
RAID support	Yes

Performance

System throughput (Gbps) [L7 throughput]	30
L7 HTTP requests/sec	2,800,000
L4 connections/sec	4,200,000
L4 concurrent sessions	46,000,000
SSL transactions/sec (2k key certificates) ²	42,000
ECDHE transactions/sec	20,000
SSL throughput (Gbps)	30
Compression throughput (Gbps)	7.2
ICA Proxy/SSL VPN concurrent users	20,000

Mechanical, environmental, and regulatory

Power supplies	2
Input voltage, frequency range	100-240 VAC full range, 50-60 Hz
Optional DC power supply	Yes
Max power supply	1000W
Typical, max power consumption	364W, 487W
Weight (lbs)	39
Height	2U
Width	EIA 310-D, IEC 60297, DIN 41494 SC48D rack width with mounting brackets
Depth	71.1 cm (28 in)
Operating temperature	0-45°C (32-113°F)
Allowed relative humidity	5%-95%, Non-condensing
Safety certifications	IEC 60950-1, 2nd Edition; CSA 60950-1, 2nd Edition; UL 60950-1, 2nd Edition; AS/NZS 60950-1
Electromagnetic emissions certifications & susceptibility standard	US (FCC (Part 15 Class A)), Canada (ICES-003) EU (CE (EN 55032/55035)), Australia (RCM), Japan (VCCI), Korea (KCC), Taiwan (BSMI), China (CCC), India (BIS), Russia (EAC), Saudi Arabia (CITC), Brazil (Anatel), South Africa (ICASA), Mexico (NOM), Egypt (NTRA), Israel (MoC)
Regulatory compliance	RoHS, WEEE, REACH
NetScaler compliance regulatory model	2U1P1A

Technical aspects

NetScaler gateway

- Provides consolidation of secure remote access infrastructure with one URL
- Provides SAML 2.0 federated identity to provide single sign-on (SSO) across all applications, whether in a data center or in a cloud
- One URL to access any application
- AlwaysON allows auto-reconnect of SSL VPN session when users are moving between networks
- AlwaysON VPN allows to establish a VPN connection before Windows logon that help admin manage the laptop remotely
- Integration with StoreFront allows importing UI changes from StoreFront to Gateway portal and vice versa
- Gateway Insight for monitoring and troubleshooting all Gateway traffic for issues like authentication, EPA, single sign-on failures, etc.
- nFactor authentication for all applications
- Stateless RDP proxy
- Support for Linux (Ubuntu 18/020)
- Support for Mac (OS X 10.14 and above)
- Support for Windows 11, 10, 8.1, 8
- Support for iOS 12 or later. Compatible with iPhone, iPad, and iPod touch.
- Support for Android 7.0 and later

Secure access

- Citrix Virtual Apps and Desktops and Citrix Endpoint Management, formerly XenMobile, integration
- Device certificate scanning
- Single sign-on using NTLM/Kerberos/SAML, etc.
- SmartAccess: Adaptive application and action control enforced on Citrix Virtual Apps and Desktops servers
- SmartControl: Adaptive application and action control enforced on NetScaler gateway, thereby providing centralized policy management and security at the edge
- Integrated NetScaler gateway SSL VPN

- For ADC versions after 11.1, NetScaler Standard edition includes (500) Universal licenses, Enterprise or Advanced editions include (1000) Universal licenses, and there are no Universal license requirements with Platinum or Premium editions
- Endpoint analysis of user device
- SAML 2.0 and nFactor; passwords for single sign on to applications running behind NetScaler Gateway
- AAA traffic management
- SAML 2.0 and NTLMv1/2 support for configuring ADC with single sign-on (SSO)
- Support for Active Directory, LDAP, OCSP, etc.

L4-7 traffic management

Layer 4 load balancing (LB)

- Protocols supported: TCP, UDP, FTP, HTTP, HTTPS, DNS (TCP and UDP), SIP (over UDP), RTSP, SQL, RDP, IS-IS, SMPP
- Algorithms: Round Robin, Least Packets, Least Bandwidth, Least Connections, Response Time, Hashing (URL, Domain, Source IP, Destination IP, and CustomID), SNMP-provided metric, Server Application State Protocol (SASP)
- Session persistence: Source IP, cookie, server, group, SSL session, SIP CALLID, Token-based, SESSIONID
- Session protocols: TCP, UDP, SSL_TCP, Multi-path TCP, SPDY
- Server monitoring: Ping, TCP, URL, ECV, scriptable health checks, Dynamic Server Response Time
- Link load balancing

Layer 7 content switching

- Policies: URL, URL Query, URL Wildcard, Domain, Source/ Destination IP, HTTP Header, Custom, HTTP and TCP Payload Values, UDP
- Switch requests based on protocol of incoming packets

Database load balancing

- Support for Microsoft SQL Server and MySQL
- Switching algorithms include SQL query parameters such as user and database names and command parameters
- Token-based load balancing provides advanced configuration for persistence and fault-tolerant deployments

TriScale clustering²

- InScale-Outin with clustering up to 32 NetScaler appliances into single system image and up to 3 Tbps throughput
- Configuration Coordinator node for centralized management and synchronization
- Traffic distribution mechanisms include: Equal Cost Multiple Path (ECMP), Link- sets, and Cluster Link Aggregation Group (CLAG)
- Available on NetScaler MPX, SDX, and VPX
- Modules may be configured on all nodes in a cluster or using “spotted VIPs,” in which they are added only to a select subset of nodes

e-based policy enforcement

- Trigger ADC policies based upon connections per second, packets per second, or bandwidth used
- Source or destination-based upon header or payload information

Admin partitions

- Allows overlapping IP addresses
- Provides separate routing flows within a single appliance
- Enables basic multi-tenancy implementations
- Independent instances that share resources on the appliance
- Maximum number of 512 admin partitions per appliance

Global server load balancing (GSLB)

- Algorithms: site health, geographic proximity, network proximity, connections, bandwidth, AG-E SSL, VPN users
- Site health checking on status, connection load, packet rate, SNMP-provided metrics

Surge protection and priority queuing²

- Adaptive rate control for TCP connections and HTTP requests
- Prioritized transaction dispatch for critical application requests

Carrier-grade Network Address Translation²

- Support for: Full-cone NAT, Deterministic NAT, Endpoint-Independent Mapping and Filtering, Hairpinning
- Application Layer Gateways: FTP, TFTP, ICMP, SIP, RTSP, PPTP, GRE

Subscriber-aware traffic steering

- Policy control interface: Gx

Application acceleration

TCP optimization

- Multiplexing, buffering, connection keep-alive, windows scaling, selective acknowledgement, fast ramp, TCP Westwood
- AppCompress
- Gzip-based compression for HTTP traffic AppCache³
- Caching for static and dynamic application content
- HTTP GET and POST method support
- Policies defined based upon HTTP header and body values

Application security

DoS attack defense

- Continue service to legitimate users while protecting against attacks such as SYN Flood, HTTP DoS, and Ping of Death
- ICMP and UDP rate control

Content rewriting and response control

- Policy-based bidirectional rewriting of HTTP header and payload elements
- Policy-based redirection of incoming requests
- Body URL rewrite
- Responder module
- Custom responses and redirects
- Policy-based routing
- Network aware policies

DNSSEC

- DNS proxy
- Authoritative DNS
- DNS signing

Packet filtering

- Layer 3 and 4 Access Control Lists (ACL)
- Network Address Translation (NAT)
- IPv4/IPv6 Network Address Translation (NAT)

NetScaler web app firewall with hybrid security model³

- Positive security model protects against: buffer overflow, CGI- BIN parameter manipulation, form/ hidden field manipulation, forceful browsing, cookie or session poisoning, broken ACLs, cross-site scripting (XSS), command injection, SQL injection, error triggering sensitive information leak, insecure use of cryptography, server misconfiguration, back doors and debug options, rate-based policy enforcement, well known platform vulnerabilities, zero-day exploits, cross site request forgery (CSRF), credit card and other sensitive data leakage prevention
- Negative security model with automatically updated

signatures to protect against L7 and HTTP application vulnerabilities

- Integrates with third-party scanning tools
- Common event format (CEF) logs
- XML security: XML denial of service (xDoS)
- XML SQL injection and cross site scripting, XML message validation, format checks, WS-I basic profile compliance, XML, XPath injection attachment check, xQuery Injection protection
- WSDL scan prevention
- Attachment checks
- URL transformation
- Cookie proxy and encryption
- SOAP array attack protection

IP reputation service

- Enhanced service that provides a continuously updated list of malicious IP addresses in near realtime

Cloud connector for Citrix Networking³

- Network connectivity protection via IPsec security
- Datacenter extension through GRE-based network bridging

Support for Citrix Endpoint Management MDM⁵

- Front end optimization scalable to over 100,000 concurrent users
- NetScaler Gateway connector for Exchange ActiveSync provides a device level authorization service
- Application level policy controlled SSL VPN tunneling for mobile clients

Network integration

- Static routes, monitored static routes, weighted static routes
- OSPF, RIP1/2, BGP2
- VLAN 802.1Q
- Link Aggregation 802.3ad
- Stateful IPv6 to IPv4 network address translation and DNS64
- Static and stateless network address translation from IPv4 to IPv6

High availability

- Active/Passive
- Active/Active
- VRRP
- ECMP
- Connection mirroring

Simplified installation and management

User interface

- Graphical application visualizer
- Secure web-based GUI
- CLI, Telnet, SSH, Console
- Real-time performance dashboard
- LB, GSLB Application Firewall and configuration wizards for monitoring
- Citrix Virtual Apps configuration wizards

Policy management

- AppExpert Visual Policy Builder
- Policy extensibility via HTTP service callouts
- AppExpert templates
- AppExpert Visualizers

Command center

- Centralized configuration and management of over 200 NetScaler appliances

NetScaler management plane

- NetScaler's management system is a software solution enabling traffic visibility; it includes HDX Insight and Web Insight and is based on AppFlow
- HDX Insight parses ICA sessions to provide troubleshooting, network analysis, and end-to-end performance for Citrix Virtual Apps and Desktops sessions. Historical data included in Premium Edition.

- Web insight monitors real-time web application traffic and assists capacity planning and helps ensure SLAs AppFlow Standards-based NetFlow/IPFIX (Internet Protocol Information Export) solution
- Supported by leading performance monitoring and management vendors
- Provides transaction level visibility for HTTP, SSL, TCP, and SSL/TCP flows

Action analytics

- Aggregates real-time traffic statistics and enables their use in setting dynamic policies
- Charting and analysis utilities using HDX Insight

Third-party management support

- SNMPv1, SNMPv2, and SNMPv3: NetScaler MIB and MIB-II support
- Terraform infrastructure as code support
- Ansible automation support
- XML/SOAP API for automated application-driven configuration

Real-time consolidated logging

- Offloads logging from application server to a central location

Lower total cost of ownership

Web cache redirection²

- Automatically direct requests with content not cached on ADC to cache farm
- N-tier multilayer load balancing support of cache servers

2. Available in NetScaler Advanced and Premium editions only.

3. Included in Premium edition only; not available with Advanced editions.

4. Available as a license upgrade on all editions MPX, VPX appliances.

5. Premium edition recommended.